ABSTRACT OF THE DISCLOSURE

A method and system for reconstructing a three-dimensional image of an object from cone beam projection data. The method comprising the steps of: acquiring the projection data, wherein the projection data comprises a set of cone

5   beam projection images; selecting at least one cone beam projection image; identifying a region of interest within each selected cone beam projection image; defining a three-dimensional lattice of points, wherein the projection into each selected cone beam projection image of the points in the three-dimensional lattice provides a sampling of the identified region of interest in the corresponding

10   selected cone beam projection image; and, reconstructing an image of the object at each point in the three-dimensional lattice to form a three-dimensional image of the object.